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ABSTRACT

This digest provides background information and sources that help in understanding the concept of educational technology. Specific answers are provided to the following 12 questions: (1) What is educational technology? (2) What are the roots of educational technology? (3) What is a good source of research findings? (4) What do educational technologists do? (5) Where are educational technologists employed? (6) Where do educational technologists obtain professional education? (7) What fields offer good preparation for educational technology? (8) What are the major professional organizations? (9) What publications do educational technologists read? (10) What are the comprehensive references for the field? (11) What textbooks are commonly used? and (12) Where can more specific information about educational technology be found? (JLB)

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ERIC Digest

The Field of Educational Technology

-A Dozen Frequently Asked Questions-

ERIC Clearinghouse on Information & Technology

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ERIC DIGEST

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The Field of Educational Technology

-- A Dozen Frequently Asked Questions --

Educational technology is a term widely used in the field of education (and other areas), but it is often used with different meanings. The word *technology* is used by some to mean hardware--the devices that deliver information and serve as tools to accomplish a task--but those working in the field use *technology* to refer to a systematic process of solving problems by scientific means. Hence, educational technology properly refers to a particular *approach* to achieving the ends of education. *Instructional technology* refers to the use of such technological processes specifically for teaching and learning.

Other terms, such as *instructional development* or *educational media*, which refer to particular parts of the field, are also used by some to refer to the field as a whole.

The purpose of this digest is to provide background information and sources that help one to understand the concept of *educational technology*. This digest should serve as a "pathfinder" to relevant and timely publications that view the field from a variety of perspectives.

1. What is educational technology?

The most recent definition of the field (which uses the term, *instructional technology*) has been published by the Association for Educational Communications and Technology (AECT):

> Instructional Technology is a field dedicated to the theory and practice of design, development, utilization, management, and evaluation of processes and resources for learning.

The complete definition, with its rationale, is presented in the AECT publication:

- *Instructional Technology: The Definition and Domains of the Field*. Washington, DC: AECT, 1994.

An overview of the field can be found in:

- Robert M. Gagne (Ed.), *Instructional Technology: Foundations*. Hillsdale, NJ: Lawrence Erlbaum, 1987.
- Gary J. Anglin (Ed.), *Instructional Technology: Past, Present & Future*. Englewood, CO: Libraries Unlimited, 1991.

2. What are the roots of educational technology?

The field is essentially a 20th century movement with the major developments occurring during and immediately after World War II. What began with an emphasis on audio-visual communications media gradually became focused on the systematic development of teaching and learning procedures which were based in behavioral psychology. Currently, major contributing fields are cognitive psychology, social psychology, psychometrics, perception psychology, and management. The basic history of the field was written by Saettler.

- Paul E. Saettler. *The Evolution of American Educational Technology*. Englewood, CO: Libraries Unlimited, 1990.

A briefer history may be found in:

- Robert Reiser, "Instructional Technology: A History." In Robert M. Gagne (Ed.), *Instructional Technology: Foundations*. Hillsdale, NJ: Lawrence Erlbaum, 1987, pp. 11-48.

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3. What is a good source of research findings?

- Ann Thompson, Michael Simonson, and Constance Hargrave. *Educational Technology: A Review of the Research.* Washington, DC: AECT, 1992.
- Barbara Means et al. *Using Technology to Support Education Reform.* Washington, DC: Office of Educational Research and Improvement, U.S. Department of Education, 1993.

4. What do educational technologists do?

Most educational technologists carry out one or a few of the functions performed in the field. For example, some design instruction, some produce instructional materials, and others manage instructional computing services or learning resources collections. The competencies for instructional development specialists and material design and production specialists are published in:

- International Board of Standards for Training, Performance and Instruction. *Instructor Competencies: The Standards* (Vol. I). Batavia, IL: IBSTPI. 1993.

A comprehensive description of the *functions* of education technology personnel is given in:

- *The Definition of Educational Technology.* Washington, DC: AECT, 1977, pp. 55-79.

5. Where are educational technologists employed?

Until recently, most educational technologists were employed in schools and colleges as directors of resource centers and developers of curriculum materials. Many are still employed in such positions, but increasing numbers are being employed by training agencies in business, industry, government, the military, and the health professions. Colleges and universities employ individuals who are involved in instructional improvement programs that use a variety of technologies.

6. Where do educational technologists obtain professional education?

Professional programs are offered mostly at the graduate level, although there are a few two-year postsecondary programs in junior and community colleges. Lists of programs are found in:

- Donald P. Ely and Barbara B. Minor (Eds.), *Educational Media and Technology Yearbook 1993.* Littleton, CO: Libraries Unlimited, 1993. In "Doctoral Programs in Instructional Technology" and "Master's Degree and Six Year Programs in Instructional Technology."
- Jenny K. Johnson (Ed.), *Graduate Curricula in Educational Communications and Technology* (4th ed.). Washington, DC: AECT, 1989.

7. What fields offer good preparation for educational technology?

Many people enter the field following an undergraduate program in teacher education. More people come from the basic disciplines of the arts and sciences--English, sociology, communications, psychology, the physical sciences, and mathematics. Although there seldom are prerequisites for study in the field, persons who have good preparation in psychology and mathematics seem to have a head start. Formal course work and experience in human relations are helpful.

8. What are the major professional organizations?

In the United States, most educational technologists would be a member of one or more of the following associations:

- American Educational Research Association (AERA)
  1230 17th St., NW
  Washington, DC 20036-3078
- American Society for Training & Development (ASTD)
  1630 Duke Street, Box 1443
  Alexandria, VA 22313

- Association for Educational Communications & Technology (AECT)
  1025 Vermont Avenue, Suite 820
  Washington, DC 20005-3547

- National Society for Performance & Instruction (NSPI)
  1300 L Street NW, Suite 1250
  Washington, DC 20005

- International Society for Technology in Education (ISTE)
  1787 Agate Street
  Eugene, OR 97403-1923

Major organizations in other parts of the world include:

- Association for Media & Technology in Education in Canada (AMTEC)
  3-1750 The Queensway, Suite 1318
  Etobicoke, Ontario M9C 5H5
  Canada

- Association for Educational & Training Technology (AETT)
  Centre for Continuing Education
  The City University
  Northampton Square
  London EC1V 0HB, U.K.

9. What publications do educational technologists read?

A recent study of journals read by educational technologists listed over 50 journals in the field. The most frequently read journals include:

- *British Journal of Educational Technology*, published by the National Council for Educational Technology, Sir William Lyons Road, Science Park, University of Warwick, Coventry CV4 7EZ, U.K.
- *The Computing Teacher*, published by ISTE.
- *Educational & Training Technology International*, published by AETT, Kogan Page Ltd., 120 Pentonville Rd., London N1 9JN, U.K.
- *Educational Technology*, published by Educational Technology Publications, 700 Palisade Avenue, Englewood Cliffs, NJ 07632.
- *Educational Technology Research and Development*, published by AECT.
- *Journal of Research on Computing in Education*, published by ISTE.
- *TechTrends*, published by AECT.

10. What are the comprehensive references for the field?

There are two major encyclopedias:

- Michael Eraut (Ed.). *The International Encyclopedia of Educational Technology*. New York: Pergamon Press, 1989.
- Derek Unwin and Ray McAleese (Eds.). *The Encyclopedia of Educational Media Communications and Technology* (2nd ed.). Westport, CT: Greenwood Press, 1988.

There are two major yearbooks which offer articles on current issues and extensive lists of people, organizations, literature, and other resources:

- Donald P. Ely and Barbara B. Minor (Eds.). *Educational Media and Technology Yearbook*. Englewood, CO: Libraries Unlimited.
- Christopher W. Osborne (Ed.). *International Yearbook of Educational and Instructional Technology*. London: Kogan Page, and Phoenix, AZ: Oryx Press.

11. What textbooks are commonly used?

There are dozens of books used in educational technology courses. Selection of titles depends upon the content of the course, the primary audience, and the instructor's objectives. General textbooks that have been used in a variety of courses are:

- Robert Heinich, Michael Molenda, and James Russell. *Instructional Media and the New Technologies of Instruction* (4th ed.). New York: Macmillan, 1993.
- Walter Dick and Lou Carey, *The Systematic Design of Instruction* (3rd ed.). Glenview, IL: Scott, Foresman and Co., 1990.

12. Where can more specific information about educational technology be found?

The ERIC (Educational Resources Information Center) system sponsored by the Office of Educational Research and Improvement of the U.S. Department of Education has been selecting documents on educational technology since 1966 and indexing articles from key journals since 1969. Abstracts of the documents can be found in:

- *Resources in Education*, published monthly by the U.S. Government Printing Office and available in more than 3,500 libraries throughout the world.

Selected articles which have been indexed from educational technology journals are listed in:

- *Current Index to Journals in Education*, found in many libraries or available from Oryx Press, 4041 North Central at Indian School Road, Phoenix, Arizona 85012-3397.

Computer searching of the ERIC database is available in many academic and some public libraries. It can also be done over the Internet and on some commercial networks. Specific questions can be addressed to:

- ERIC Clearinghouse on Information & Technology (ERIC/IT)
  4-194 Center for Science and Technology
  Syracuse University
  Syracuse, NY 13244-4100
  (315) 443-3640
  (800) 464-9107

There is a listserv on the Internet that focuses on discussion of issues in educational technology. The address is:

EDTECH@MSU.BITNET

The ERIC/IT clearinghouse has a publications list of monographs and digests about current issues and developments in the field and publishes a newsletter, *ERIC/IT Update*, twice each year. Both items are available without charge.

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